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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,559	07/30/2003	Livio Ricciulli	2711-0012	8636

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EXAMINER
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NGUYEN, MINH CHAU

ART UNIT	PAPER NUMBER
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2145

MAIL DATE	DELIVERY MODE
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10/15/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/630,559	RICCIULLI, LIVIO
	Examiner MINH-CHAU NGUYEN	Art Unit 2145

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 30 July 2003.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 33-54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 33-54 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_

## **DETAILED ACTION**

This action is responsive to the amendment of the applicant filed on 08/30/07.

Claims 33-54 are presented for further examination.

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).
2. Misnumbered claims 1-22 need to be renumbered 33-54.

### ***Information Disclosure Statement***

3. The information disclosure statements (IDS) submitted on 01/24/07 and 08/30/07 are being considered by the Examiner.

### ***Claims Rejection***

4. The Note in Applicant's arguments/Remarks was received on 8/30/07. The Examiner reconsiders and accepts claims 39, 40 are depended on claim 38. Thus, they would be rejected under 35 U.S.C. 103(a).

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 33-36,41-45,47-51,53-54 are rejected under 35 U.S.C. 102(e) as being anticipated by Shaffer et al. (Shaffer) (US 6,236,642 B1).
6. Claim 33, Shaffer teaches a method for selecting a route in a network, the method comprising:

receiving data (i.e. voice, video or other data) (Col. 3, L. 8-11) associated with a request for content at a first intermediate server(i.e. node 1), the data transmitted from an end user (i.e. source node) to the first intermediate server (i.e. node 1) (see figure 2);

identifying a first cost (i.e. a cost for an established initial route in figure 1) of transmission along a default route (i.e. an initially assigned route which is stored in a memory of a network control unit. For example, route "source node – node 1 – end node" in figure 1) (Col. 3, L. 30-40) from the first intermediate server (i.e. node 1) to a content server (end node), the default route determined using one or more existing routing mechanisms (see figure 2; and Col. 3, L. 10-50; and Col. 4, L. 22-31);

identifying a second cost (i.e. a cost to each subsequent route that may be contemplated as a possible alternate route) (Col. 3, L. 30-40) of transmission along an alternate route from the first intermediate server (i.e. node 1) to the content server(end node), the alternate route including a second intermediate server (i.e. node 2) not in the default route (i.e. route "source node – node 1 – node 2 – end node") (see figure 2; and Col. 3, L. 10-50; and Col. 4, L. 22-42), wherein the second intermediate server is part of an overlay network (i.e. a network connection is shown in figure 2);

determining an optimal route (i.e. an optimal route is a route providing fast links and greatest bandwidth at the lowest cost) based at least in part on the first cost and the second cost, wherein the first cost and the second cost are determined using network communication performance metrics (i.e. the cost may be a functions of a number of links, link speeds and bandwidth) (Col. 3, L. 10-50; and Col. 4, L. 4-13, L. 22-55); and

transmitting data associated with the request for content along the optimal route (figure 3&4; and Col. 4,L. 22-42; and Col. 5, L. 6-39).

7. Claim 34, Shaffer teaches the network communication performance metrics are obtained periodically (i.e. "the system will wait a predetermined amount of time") (Col. 5, L. 27-34).

8. Claim 35, Shaffer teaches the cost of transmission is determined using one or more network communication performance metrics selected from the following group: delay, bandwidth, jitter, loss, security (Col. 4, L. 49-55).
9. Claim 36, Shaffer teaches the alternate route (i.e. route "source node – node 1 – node 2 – end node") comprises one or more overlay nodes (see figure 2).
10. Claim 41, Shaffer teaches determining the optimal route comprises determining an optimal next hop (Col. 3, L. 30-44; and Col. 4, L. 22-Col. 5, L. 39).
11. Claim 48, Shaffer teaches the processor is further configured to transmit data associated with the request for content along the preferred route (figure 2 and Col. 3, L. 7-15, L. 30-59).
12. Claims 42-45 are corresponding apparatus claims of method claims 33-36. Therefore, they are rejected under the same rationale.
13. Claims 47,49-51 are corresponding apparatus claims of method claims 33-36. Therefore, they are rejected under the same rationale.
14. Claim 53 is corresponding claim of claim 33. Therefore, it is rejected under the same rationale.

15. Claim 54 is corresponding system claim of method claim 33. Therefore, it is rejected under the same rationale.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 37-38,46,52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaffer as applied to claims 33,42,47 above, and further in view of Matthews et al. (Matthews) (6,084,858).

17. Claim 37, Shaffer teaches the one or more overlay nodes defined in a network (see figure 2).

Shaffer fails to teach one or more overlay nodes define a virtual topology. However, Matthews, in the same field of endeavor having closely related objectivity, teaches one or more overlay nodes define a virtual topology (i.e. a meshed network topology) (figure 1; and Col. 1, L. 40-53).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Matthews's teachings of one or more overlay nodes define a virtual topology, in the teachings of Shaffer in

apparatus and method for network resource preservation, for the purpose of improving network efficiency.

18. Claim 38, Shaffer and Matthews disclose the invention substantially as claimed.

Shaffer teaches the data is transmitted along the optimal route (Col. 3, L. 30-59; and Col. 4, L. 45-55). Besides this, Mathews teaches the data is transmitted along the route using encapsulation (Col. 1, L. 31-33).

19. Claim 39, Shaffer and Matthews disclose the invention substantially as claimed.

Shaffer teaches the data is transmitted along the optimal route by changing a destination associated with the data (figure 3&4; and Col. 4,L. 22-42; L. 56-Col. 5, L. 39).

20. Claim 40, Shaffer and Matthews disclose the invention substantially as claimed.

Shaffer teaches a response corresponding to the request for content is also transmitted along the optimal route (i.e. see figure 2, the communication links between source node and the end node which includes several the intermediate nodes are bidirectional communication links. Therefore, it inherits that if the request is transmitted along the optimal route, then the response must be transmitted along the optimal route, too) (Col. 3, L. 30-46; Col. 4,L. 22-42; L. 56-Col. 5, L. 39).

21. Claim 46 is corresponding apparatus claim of method claim 37. Therefore, it is rejected under the same rationale.

22. Claim 52 is corresponding apparatus claim of method claim 37. Therefore, it is rejected under the same rationale.

***Response to Arguments***

Applicant's arguments filed 08/30/07 have been fully considered but they are not persuasive.

(A) Shaffer neither teaches nor in any way suggests an overlay network, let alone one in which an alternate route is taken.

As to point (A), in response to applicant's argument, Shaffer does teach, in figure 2, a network that includes many intermediate nodes between the source node and end nodes for transferring packets. These nodes are set in one or more communication paths. For example, first path is source node-node1-end node; second path is source node-node1-node2-end node, etc. Thus, the communication packets would be passed through at least one of these paths [Col. 3, L. 30-50].

In addition, from Applicant's remark in page 9, Applicant does define overlay network that is "The overlay network may comprises "a special group of intermediate nodes" through which an alternative path may pass".

Therefore, the network in figure 2 of Shaffer could be an overlay network because it comprises a group of intermediate nodes (such as node1, node2, node3, etc.) and an alternative path (such as the second path) which the packets would be passed through.

(B) Shaffer shows a path (optimal route), "it inherits that if the request is transmitted along the optimal route, then the response must be transmitted along the optimal route, too". This statement is fundamentally incorrect.

As to point (B), in response to applicant's argument, Shaffer does teach an optimal path route is a route provides greater bandwidth or less routing delay time or the same or less cost (i.e. the cost of the route may be based on the number of hops, number of nodes...) [Col. 3, L. 20-22, L. 41-45], and the optimal route or the best route is the one having the fewest number of hops between the source and endpoint, which allows for faster travel over the route [Col. 4, L. 4-7]. Thus, since the most advantage of the optimal route is shown, so that if the request is transmitted along the optimal route, then the response should be transmitted along the optimal route too (i.e. the response will be transmitted faster over the route).

Therefore, the statement "it inherits that if the request is transmitted along the optimal route, then the response must be transmitted along the optimal route, too" is correct.

***Conclusion***

Applicant's amendment necessitated the rejection presented in this Office action.

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MINH-CHAU N. NGUYEN whose telephone number is (571)272-4242. The examiner can normally be reached on Monday-Friday from 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JASON D. CARDONE can be reached on (571) 272-3933. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Examiner: Minh-Chau Nguyen  
Art Unit: 2145

*MN*

  
JASON CARDONE  
SUPERVISORY PATENT EXAMINER